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and shipwreck their patents where they least expect it. If any of the substances mentioned to be mixed with it, can be of any use in the purification of salt by calcination, or improve its quality, it is evident to any person in the least acquainted with chemistry, that they cannot all be so, being of such different natures, and that all that are not so, are inserted either from ignorance, or for concealment.

Sulphate of lime, for instance, one of the substances above stated, by a process very similar, in which heat alone is used, contrived by an eminent German chemist, named Funcke, produces sulphate of soda from sea-salt combined with it, and would probably have the same effect in Mr. Londen's method, instead of that he proposes: most of the other sulphates mentioned by him would most likely have the same effect; and if any of them did so, it would form a formidable ground for the invalidation of the patent, on the same principle as that, on which Mr. Turner's patent for his yellow pigment (muriate of lead) was set aside.

The nitrates directed would be of use in accelerating the calcination of the metallic substances united to the salt, but would cost too much for any profitable application. The addition of soda is objectionable on the last ground, even if it could be of any use; on the contrary, its probable effect would be to weaken the salt, by depriving it of some of its muriatic acid. Indeed the whole process is calculated to have this latter effect; wherefore Mr. Londen's salt, instead of being stronger and better than bay salt, probably would be considerably inferior to it, since it is well known that the circumstance which gives bay salt its superiority, in preserving fish and provisions, over common pan-salt, is the greater proportion of muriatic acid it contains; which is usually attributed to its not having been exposed to any heat above that which the action of the sun is capable of giving to sea water; which heat is not sufficient to separate any part of the muriatic acid from its combination with the soda in the sea salt. When the heat of boiling water in the pans is found to have so great

an effect in injuring the quality of the salt, it is fair to conclude that the power of the very high temperature of calcination in this respect would be much greater.

*Patent of Mr. Cobb, junr. of Banbury Oxfordshire, for improvements in the art of making Paper, dated December 1807.*

In Mr. Cobb's method of making paper the pulp runs out of a large vat, in which it is prepared into a smaller one by a cock, or otherway, for the immediate purpose of manufacture, two cylindrical agitators are placed horizontally in the large vat, and one in the small one, to keep the pulp duly suspended; and on one side of the smaller vat the pulp is permitted to flow out through regulated apertures into a small trough, where its motion is checked by an inclined plane or sloped piece, from which the pulp flows over another inclined surface into a paper mould, which is moved forward by an endless web passing over rollers placed at the two ends of a horizontal frame; which frame is kept in a state of rapid agitation back and forwards, during the working of the machinery, by a crank and a re-acting spring, or other means. When the mould has passed to the end of the first endless web, it is received by another moving over-fixed rollers, towards the termination of its passage above which it encounters an endless web of felt, whose plane of direction downwards is in an angle of about 20 degrees to that of the first web, and which in the same manner passes over rollers, the lowest of which is pressed into close contact with the paper mould, by another roller placed beneath the web which sustains the mould. By this means the sheet of pulp loses some of its moisture and adheres to the felt web, which brings it upwards along a slope of about 45 degrees, till it is on a level with the highest roller, and then passing on horizontally draws it between one, or more pairs of rollers, whose action renders the sheet sufficiently firm to be taken off by a workman standing at the upper roller, who lays it in the usual manner. The paper mould, after the soft sheet is taken from it by the felt web,

passes on to the roller at the extremity of the first web, near which a detached roller receives its most advanced end, and its other end being made the heaviest, causes it to fall down with this heavy end foremost, on another endless web passing over rollers in the same manner, but in a contrary direction, which brings it back again beneath the small vat to a place where a workman stands, to place the moulds on the first web, which is to convey them beneath the trough, where they receive the pulp.

Another method is described in the specification of pressing the soft sheet, by the action of a platform forced vertically against another, that lies beneath the first endless web, instead of by the operation of the rollers above described; but the first mode detailed here seems preferable to the other from its requiring less attendance. An Horizontal trough is placed at the lowest part of the felt web, and at the other parts of the apparatus which require it, to receive the water which may be pressed out of the paper by the before-mentioned operations.

The wire web of the mould, instead of being nailed at the top of the frame, is turned over, and fastened at the sides, the frame is brought to an edge at its upper part, and its whole outside is covered with thin metal; on which another frame of wood or metal is placed, which slides up and down, and forms the deckle, which by pressure or re-action, from the bearing parts of the agitable frame along which the first endless web conveys it, is made to stand a little above the face, when the mould is placed in the situation to receive its charge, and is suffered to slide back, for want of the like pressure or re-action, when the mould arrives at the felt web, which couches the paper. The means of putting the machinery in motion is not described, but may be easily conceived by any person acquainted with Engines; and is left to the judgment of the person who constructs it, as is also the choice of the materials proper for each of its parts.

*Remarks.* The chief principles of the machinery described in the above  
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specification, are evidently derived from the methods recounted in those of the patents of Mr. Bramah, and of Messrs. Fourdrionier, taken out some time before for the same purposes. Mr. Cobb has however simplified their processes, as well as the machinery used in them, by a judicious introduction of manual labour at certain parts of the operation, but whether this will be sufficient to constitute a new patent right must be left to legal decision.

*Patent of Mr. Mark Dobito, of Kirtling, Cambridgeshire, for an Improved Plough, for underdraining land. Dated June, 1809.*

The apparatus described in Mr. Dobito's specification, may be divided into two parts, the first consists of a mole plough, which differs only from that which has been for some time in use in England, in having a roller beneath the head of the beam, and another beneath the heel of the handle, to sustain the beam at the surface of the earth, as the plough is drawn forward, of which the acting parts are a horizontal conical piece of iron attached to the beam by a vertical flat piece, like a coulter, by which its depth can be regulated, and a cutting coulter placed farther forward in the usual manner. The other part of the apparatus is a moveable capstan, placed on a frame furnished with low wheels, which is capable of being fixed at any station required, by one or more anchors with a single fluke, and by props behind, which press against the earth at a very small angle of inclination. The plough is to be drawn forward by a rope or chain, extending from it, and rolled round the barrel of the capstan, by the action of men or horses at the bars.

*Remarks.* In a country such as China, where agriculture is almost totally carried on by manual labour, such an apparatus as this might be of use; but where horses can be hired at a reasonable rate, it would certainly be more advantageous to encrease the number of horses, in proportion to the force required in moving forward the mole plough, than to use any machinery which would require so  
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